INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

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Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

April 4, 2003

Thomas Lund
United States Mineral Products Company d/b/a Isolatek International
P.O. Box 5006
Huntington, Indiana 46750

Re: 069-16136-00021
First Significant Permit Modification to
Part 70 No.: T 069-5660-00021

Dear Mr. Lund:

United States Mineral Products Company d/b/a Isolatek International was issued a permit on December 28, 1999 for a stationary acoustic and thermal insulation manufacturing source. A letter requesting changes to this permit was received on September 18, 2002. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification relates to the operation of new controls on the two (2) existing cupolas, known as EU#1 and EU#2, correcting the equipment capacities of existing permitted facilities, and incorporating the MACT requirements of 40 CFR 63, Subpart DDD, National Emission Standards for Hazardous Air Pollutants from Mineral Wool Production Plants.

The changes in the Part 70 Operating Permit are documented in the Technical Support Document. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this significant modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Mark L. Kramer, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 ext. 12 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,
Signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
MLK/MES
cc: File - Huntington County
U.S. EPA, Region V
Huntington County Health Department
Air Compliance Section Inspector - Ryan Hillman
Compliance Branch - Karen Nowak
Administrative and Development - Lisa Lawrence
Technical Support and Modeling - Michelle Boner

PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

United States Mineral Products Company
d/b/a Isolatek International
701 North Broadway
Huntington, IN 46750

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 069-11828-00021	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: December 28, 1999 Expiration Date: December 28, 2004

First Administrative Amendment, AAT 069-11828-00021, issued March 3, 2000
Second Administrative Amendment, AAT 069-12578-00021, issued October 16, 2000

First Significant Permit Modification: SPM 069-16136	Conditions Added: C.10, D.1.1, D.1.2, D.1.5, D.1.12, D.1.14, D.1.15, & D.1.16 Conditions Affected: D.1.3, D.1.6, D.1.7, D.1.8, D.1.9 & D.1.13
Issued by:Signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 4, 2003

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Schedule [40 CFR Part 63, Subpart DDD]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.11 Compliance Schedule [326 IAC 2-7-6(3)]
C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
C.13 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]
C.14 Monitoring Methods [326 IAC 3]
C.15 Pressure Gauge Specifications

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]
C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6] [326 IAC 1-6]
C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)] [326 IAC 2-6]
C.21 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]
C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]
C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

Stratospheric Ozone Protection

C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS - Two (2) cupolas and two (2) blowchambers (EU#1 - #4) . 30

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A]
D.1.2 Mineral Wool Production NESHAP [40 CFR 63, Subpart DDD]
D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]
D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.1.5 Compliance Demonstration [40 CFR Part 63.1190]
D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.1.7 Particulate Matter (PM)

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.8 Visible Emissions Notations
D.1.9 Parametric Monitoring
D.1.10 Baghouse and Screenhouse Inspections
D.1.11 Broken Bag or Failure Detection
D.1.12 Cupola Bag Leak Detection System [40 CFR Parts 63.1178, 1181, 1184 and 1187] [40 CFR Part 64.8(b) through (d)]

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary acoustic and thermal insulation manufacturing source.

Responsible Official:	Thomas Lund
Source Address:	701 North Broadway, Huntington, Indiana 46750
Mailing Address:	P.O. Box 5006, Huntington, Indiana 46750
SIC Code:	3296
County Location:	Huntington
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Two (2) short stack # 1 and # 2 cupolas, known as EU#1 and EU#2, installed before 1960, equipped with a baghouse, known as CE#1, exhausted to Stack #1, capacity: 5.0 tons of melt per hour, and 1.5 tons of coke feed per hour, each.

(b) Two (2) blowchambers, known as EU#3 and EU#4, installed before 1978, each equipped with a screenhouse, known as CE#3 and CE#4, (#1 and #2 screenhouse), capacity: 4.0 tons of molten mineral feed per hour, each.

(c) Three (3) hoppers, known as EU#14, EU#15 and EU#17 (hopper #1, #2 and #4), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 5.0 tons of dry powdered binders per hour, each.

(d) Two (2) hoppers, known as EU#16 and EU#18 (hopper #3 and #5), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 0.2 ton of dry powdered binders per hour, each.

(e) One (1) live bottom hopper, known as EU#19, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(f) One (1) granulator, known as EU#20, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(g) One (1) bagger, known as EU#21, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour.

(h) Two (2) augers, known as EU#23 and EU#24, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour, each.

(i) One (1) portable hopper, known as EU#27 (portable hopper #3), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 0.75 ton of dry powdered binders per hour.

(j) One (1) hammermill/cyclone, known as EU#28, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(k) Two (2) portable hoppers, known as EU#25 and EU#26, (portable hoppers #1 and #2, respectively), installed in 1980, exhausted inside the building, capacity: 0.75 tons of dry powdered binders per hour, each.

(l) Two (2) mineral wool balers, known as EU#5 and EU#6, installed before 1980, exhausted inside the building, capacity: 6.0 tons of baled mineral wool per hour, each.

(m) One (1) front end mineral wool bagger, known as EU#7, installed in 1987, equipped with a baghouse, known as CE#5, exhausted to Stack #5, capacity: 5.0 tons of bagged mineral wool per hour.

(n) One (1) mineral wool bin, known as EU#8, installed in 1983 or 1984, equipped with a pneumatic conveyor that incorporates a totally enclosed air recycled system, capacity: 10.0 tons of mineral wool per hour.

(o) One (1) gypsum silo, known as EU#9, installed before 1980, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(p) One (1) chipped gypsum silo, known as EU#10, installed in 1991, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(q) One (1) cement silo, known as EU#11, installed in 1990, equipped with a baghouse, known as CE#7, exhausted to Stack #7, capacity: 54.0 tons of Portland cement per hour.

(r) One (1) batch blender, known as EU#12, installed in 1993, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 5.0 tons of blended product per hour.

(s) One (1) debaler, known as EU#13, installed in 1980, exhausted inside the building, capacity: 5.0 tons of mineral wool per hour.

(t) One (1) raw material receiving yard, known as EU#29, installed prior to 1980, capacity: 216 tons of rock, slag and coke per hour.

(u) One (1) batching station, known as EU#30, installed prior to 1980, capacity: 14.4 tons of rock and coke per hour.

(v) One (1) ribbon blender, known as EU# 31, installed in 1988, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 2.0 tons of dry powdered binders per year.

(w) One (1) dedust oil tank, known as EU#34, installed prior to 1980, exhausted to Stack # 17, capacity: 7,000 gallons.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Requirement [326 IAC 2-1.1-11]

C.10 Compliance Schedule [40 CFR Part 63, Subpart DDD]

(a) On April 15, 2002, IDEM, OAQ, pursuant to 40 CFR Part 63.1180, approved an extension of the final compliance standards and date contained in 40 CFR Part 63, Subpart DDD for the two (2) cupolas, known as EU#1 and EU#2. The termination date of this extension is June 3, 2003, which is the final compliance date for 40 CFR Part 63, Subpart DDD.

(b) The Permittee shall operate the two (2) cupolas, known as EU#1 and EU#2, in compliance with emission limits specified by June 3, 2003.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.11 Compliance Schedule [326 IAC 2-7-6(3)]

The Permittee:

(a) Has certified that all facilities at this source are in compliance with all applicable requirements; and

(b) Has submitted a statement that the Permittee will continue to comply with such requirements; and

(c) Will comply with such applicable requirements that become effective during the term of this permit.

C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.13 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.14 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.15 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present in a process in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM, OAQ, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM, OAQ, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable require-

ments. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.21 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period.

(e) All instances of deviations as described in Section B- Deviations from Permit Requirements and Conditions must be clearly identified in such reports.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Stratospheric Ozone Protection

C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) Two (2) short stack # 1 and # 2 cupolas, known as EU#1 and EU#2, installed before 1960, equipped with a baghouse, known as CE#1, exhausted to Stack #1, capacity: 5.0 tons of melt per hour, and 1.5 tons of coke feed per hour, each.

(b) Two (2) blowchambers, known as EU#3 and EU#4, installed before 1978, each equipped with a screenhouse, known as CE#3 and CE#4, (#1 and #2 screenhouse), capacity: 4.0 tons of molten mineral feed per hour, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A]

Effective June 3, 2003, the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the two (2) cupolas, known as EU#1 and EU#2, described in this section except when otherwise specified in 40 CFR Part 63, Subpart DDD.

D.1.2 Mineral Wool Production NESHAP [40 CFR 63, Subpart DDD]

(a) Effective June 3, 2003, pursuant to 40 CFR Part 63.1180, the two (2) existing cupolas, known as EU#1 and EU#2, are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), (40 CFR Part 63, Subpart DDD).

(b) Effective June 3, 2003, pursuant to 40CFR Part 63.1178, at all times, except during periods of startup, shutdown, or malfunction, the particulate matter (PM) emissions from two (2) cupolas, known as EU#1 and EU#2, shall each not exceed 0.10 pound of PM per ton of melt.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process operations), the allowable PM emission rate from:

(a) The two (2) cupolas (EU#1 and EU#2) shall not exceed 19.2 pounds per hour when operating at a total process weight rate of 10.0 tons of melt per hour.

(b) Each of the two (2) blowchambers (EU#3 and EU#4) shall not exceed 10.4 pounds per hour each when operating at a process weight rate of 4.0 tons of molten mineral feed per hour.

(c) The pounds per hour emission limitations were calculated with the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of

this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.1.5 Compliance Demonstration [40 CFR Part 63.1190]

The Permittee shall use the following equation to demonstrate compliance with the PM emission limit specified in Condition D.1.2(b) for the cupolas:

$$E = \frac{C \times Q \times K_1}{P}$$

where: E = Emission rate of PM, kg/Mg (lb/ton) of melt.
C = Concentration of PM, g/dscm (gr/dscf).
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr).
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr).
P = Average melt rate, Mg/hr (ton/hr).

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM testing of the exhaust stack serving the two (2) cupolas (Stack #1) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(b) The Permittee is not required to test the two (2) blowchambers by this permit. However, IDEM may require compliance testing when necessary to determine if these facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

(c) By December 3, 2003, which is 180 days after the June 3, 2003 compliance date, the Permittee shall conduct a performance test in order to demonstrate compliance with Condition D.1.2(b) for each cupola as specified in 40 CFR Part 63.1188 utilizing method as approved by the Commissioner and show compliance with the PM emission limits while the bag leak detection system is installed, operational, and properly adjusted.

D.1.7 Particulate Matter (PM)

The baghouse (CE#1) and the screenhouses (CE#3 and/or CE#4) for PM control shall be in operation at all times when the cupolas (EU#1 and/or EU#2) and the blowchambers (EU#3 and/or EU#4) are in operation and exhausting to the outside atmosphere.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.8 Visible Emissions Notations

(a) Visible emission notations of the two (2) cupola (EU#1 and #2) and two blowchamber (EU#3 and #4) stack exhausts (Stack #1, #3 and #4) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting

startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse (CE#1) and screenhouses (CE#3 and CE#4) used in conjunction with the two (2) cupolas and two (2) blow-chambers, at least once daily when the insulation manufacturing processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouse CE#1 shall be maintained within the range of 4.0 and 14.0 inches of water and the pressure drop across screenhouses CE#3 and CE#4 shall be maintained within the range of 0.2 and 10.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.10 Baghouse and Screenhouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling the two (2) cupolas when venting to the atmosphere. All defective bags shall be replaced or the associated tubesheet opening capped as long as no more than ten percent (10%) of the number of total bags; thirty (30) bags for the cupola #1 baghouse; and sixty (60) bags for the cupola #2 baghouse, are capped.

(b) An inspection shall be performed each calendar quarter of all screens controlling the two (2) blowchambers when venting to the atmosphere. All defective screens shall be replaced.

D.1.11 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The process associated with the affected compartments will be shut down or process charge suspended (process banked) immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, the process associated with the failed baghouse will be shut down or process charge suspended (process banked) immediately until the failed

units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.12 Cupola Bag Leak Detection System [40 CFR Parts 63.1178, 1181, 1184 and 1187] [40 CFR Part 64.8(b) through (d)]

(a) To be in compliance with the PM emission limit, pursuant to 40 CFR Part 63.1181, the Permittee shall:

(1) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter pursuant to 40 CFR Part 63.1184.

(2) Begin corrective actions specified in the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1187 within one (1) hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

(3) Develop and implement a written quality improvement plan (QIP) consistent with compliance assurance monitoring requirements of 40 CFR Part 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period.

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(b) Pursuant to 40 CFR Part 63.1178, the operating limits for each cupola are as follows:

(1) Begin within one (1) hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in by the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1178, and

(2) When the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period, the Permittee shall develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of 40 CFR Part 64.8(b) - (d).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.13 Record Keeping Requirements

(a) To document compliance with Condition D.1.8, the Permittee shall maintain records of visible emission notations of the two (2) cupola and two (2) blowchamber stack exhausts once per shift.

(b) To document compliance with Condition D.1.9, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure drop across the baghouse tube-sheet; and

(B) Cleaning cycle: frequency (baghouses that have cleaning cycles preset by the manufacturer, the Permittee can document the cycle once, versus re-documenting a preset every day) and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(c) To document compliance with Condition D.1.10, the Permittee shall maintain records of the results of the inspections required under Condition D.1.10.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Record Keeping Requirements [40 CFR Part 63.10(b)] [40 CFR Part 63.1192]

Pursuant to 40 CFR Part 63.10(b) and 40 CFR Part 63.1192, the Permittee shall:

(a) Maintain files of all information required by 40 CFR Part 63.10(b) of the general provisions in Subpart A of this part, including all notifications and reports.

(b) Maintain records of the following information:

(1) Cupola feed rate (tons per hour) of melt.

(2) All bag leak detection system alarms. Include the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(c) Retain each record for at least five (5) years following the date of each occurrence, measurement, corrective action, maintenance, record, or report. The most recent two (2) years of records must be retained at the facility. The remaining three (3) years of records may be retained off site.

The Indiana State rule cited in Section C - General Record Keeping, which requires the records be kept at the source location for a minimum of three (3) years, is more stringent. Therefore, the Permittee shall maintain the most recent three (3) years of records at the source and the remaining two (2) years of records may be retained off site.

(d) Records may be retained on microfilm, on microfiche, on a computer, on computer disks, or on magnetic tape disks.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.15 Reporting Requirements [40 CFR Part 63.10(d) and 40 CFR Part 63.1193]

Pursuant to 40 CFR Part 63.1193, the Permittee shall prepare and submit reports to the IDEM, OAQ as required by this subpart and 40 CFR Part 63.10 of the general provisions in Subpart A of this part. These reports include, but are not limited to, the following:

(a) A performance test report, as required by 40 CFR Part 63.10(d)(2) of the general provisions in Subpart A of this part, that documents the process and control equipment operating parameters during the test period, the test methods and procedures, the analytical procedures, all calculations, and the results of the performance tests.

(b) A startup, shutdown, and malfunction plan, as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part, that contains specific procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the emission standards. In addition to the information required by 40CFR Part 63.6(e)(3), the plan must include the following:

(1) Procedures to determine and record what caused the malfunction and when it began and ended.

(2) Corrective actions you will take if a process or control device malfunctions, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(3) An inspection and maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(c) A report of each event as required by 40 CFR Part 63.10(b) of the general provisions in subpart A of this part, including a report if an action taken during a startup, shutdown, or malfunction is inconsistent with the procedures in the plan as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part.

(d) An operations, maintenance, and monitoring plan as specified in 40 CFR Part 63.1187 of this subpart.

(e) A semiannual report as required by 40 CFR Part 63.10(e)(3) of the general provisions in Subpart A of this part if measured emissions exceed the applicable standard or a monitored parameter varies from the level established during performance testing. The report must contain the information specified in 40 CFR Part 63.10(c) of the general provisions, as well as the relevant records required by 40 CFR Part 63.1192(b) of this Subpart.

(f) A semiannual report stating that no excess emissions or deviations of monitored parameters occurred during the reporting period as required by 40 CFR Part 63.10 (e)(3)(v) of the general provisions in Subpart A of this part if no deviations have occurred.

(g) Report the required information on paper or on a labeled computer disk using commonly available and compatible computer software.

D.1.16 Notification Requirements [40 CFR Part 63.1191]

Pursuant to 40 CFR Part 63.1191, the Permittee shall submit written notifications to the address listed in Section C - General Reporting Requirements as required by 40 CFR Part 63.9(b) - (h) of the General Provisions in Subpart A of 40 CFR Part 63.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(c) Three (3) hoppers, known as EU#14, EU#15 and EU#17 (hopper #1, #2 and #4), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 5.0 tons of dry powdered binders per hour, each.

(d) Two (2) hoppers, known as EU#16 and EU#18 (hopper #3 and #5), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 0.2 ton of dry powdered binders per hour, each.

(e) One (1) live bottom hopper, known as EU#19, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(f) One (1) granulator, known as EU#20, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(g) One (1) bagger, known as EU#21, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour.

(h) Two (2) augers, known as EU#23 and EU#24, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour, each.

(i) One (1) portable hopper, known as EU#27 (portable hopper #3), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 0.75 ton of dry powdered binders per hour.

(j) One (1) hammermill/cyclone, known as EU#28, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(k) Two (2) portable hoppers, known as EU#25 and EU#26, (portable hoppers #1 and #2, respectively), installed in 1980, exhausted inside the building, capacity: 0.75 tons of dry powdered binders per hour, each.

(l) Two (2) mineral wool balers, known as EU#5 and EU#6, installed before 1980, exhausted inside the building, capacity: 6.0 tons of baled mineral wool per hour, each.

(m) One (1) front end mineral wool bagger, known as EU#7, installed in 1987, equipped with a baghouse, known as CE#5, exhausted to Stack #5, capacity: 5.0 tons of bagged mineral wool per hour.

(n) One (1) mineral wool bin, known as EU#8, installed in 1983 or 1984, equipped with a pneumatic conveyor that incorporates a totally enclosed air recycled system, capacity: 10.0 tons of mineral wool per hour.

(o) One (1) gypsum silo, known as EU#9, installed before 1980, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(p) One (1) chipped gypsum silo, known as EU#10, installed in 1991, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(q) One (1) cement silo, known as EU#11, installed in 1990, equipped with a baghouse, known as CE#7, exhausted to Stack #7, capacity: 54.0 tons of Portland cement per hour.

(r) One (1) batch blender, known as EU#12, installed in 1993, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 5.0 tons of blended product per hour.

(s) One (1) debaler, known as EU#13, installed in 1980, exhausted inside the building, capacity: 5.0 tons of mineral wool per hour.

(t) One (1) raw material receiving yard, known as EU#29, installed prior to 1980, capacity: 216 tons of rock, slag and coke per hour.

(u) One (1) batching station, known as EU#30, installed prior to 1980, capacity: 14.4 tons of rock and coke per hour.

(v) One (1) ribbon blender, known as EU# 31, installed in 1988, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 2.0 tons of dry powdered binders per year.

(w) One (1) dedust oil tank, known as EU#34, installed prior to 1980, exhausted to Stack # 17, capacity: 7,000 gallons.

(x) One (1) PEG400 VOC tank, known as EU#35, installed in 1990, capacity: 8,000 gallons.

(y) One (1) Dedust oil tank, known as EU#38, installed in 1997, exhausted to Stack #21, capacity: 8,000 gallons.

(z) Removed by AAT 069-12578.

(aa) One (1) mixed binder surge hopper scale system, known as EU#40, installed in 2000, equipped with an existing baghouse, known as CE#9, exhausted to Stack #9, capacity: 5.0 tons of powdered binders per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rates from the indicated facilities shall not exceed the PM emission limitations specified at the specified process weight rates listed in following table:

Emission Unit(s)	Process Weight Rate (tons per hour)	Allowable PM Emission Rate (pounds per hour)
EU#5 and EU#6	6.0, each	13.6, each
EU#7	5.0	12.1
EU#8	10.0	19.2
EU#9 and EU#10	54.0, each	45.3, each
EU#11	54.0	45.3
EU#12 and EU#13	5.0, each	12.1, each
EU#14 and EU#15	5.0, each	12.1, each
EU#16	0.2	1.40
EU#17 & EU#40	5.0, each	12.1 total
EU#18	0.2	1.40
EU#19 and EU#20	8.0, each	16.5, each
EU#21, EU #23 & EU#24	12.0, each	21.7, each
EU#25 and EU#26	0.75, each	3.38, each
EU#27	0.75	3.38
EU#28	8.0	16.5
EU#31	2.0	6.52

The pounds per hour limitations were calculated with the following equations:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

and

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour.

D.2.2 Prevention of Significant Deterioration [326 IAC 2-2]

Any change or modification for these emission units which may increase potential to emit to 25 tons per year for PM and 15 tons per year for PM_{10} shall require approval from IDEM, OAQ prior to making the change.

D.2.3 Part 70 Permits: source modifications [326 IAC 2-7-10.5]

The particulate matter (PM) and PM_{10} emissions from EU#40 shall not exceed 1.14 pounds per hour in order to avoid the requirements of 326 IAC 2-7-10.5.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for facilities, EU#7 - EU#12, EU#14, EU#15, EU#17, EU#19 - EU#24, EU#27 and EU#28, and their control devices.

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if these facilities are in compliance. If testing is required by IDEM, compliance with the particulate matter limits specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.6 Particulate Matter (PM)

The baghouses (CE#5 - CE#9) for PM control shall be in operation at all times when their facilities are in operation and exhausting to the outside atmosphere.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.7 Visible Emissions Notations

(a) Visible emission notations of emission units EU#7 - EU#12, EU#14, EU#15, EU#17, EU#19, EU#24, EU#27 and EU#28 stack exhausts (Stack #5, #6, #7, #8 and #9) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses (CE#5 - CE#9) used in conjunction with emission units EU# 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 and 40 at least once daily when the insulation manufacturing processes are in operation when venting

to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouses CE#5 and CE#6 shall be maintained within the range of 1.0 and 6.0 inches of water, the pressure drop across baghouses CE#7 and CE#8 shall be maintained within the range of 1.0 and 6.0 inches of water, and the pressure drop across baghouse CE#9 shall be maintained within the range of 0.2 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.2.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the insulation manufacturing operations when venting to the atmosphere. All defective bags shall be replaced or the associated tubesheet opening capped as long as no more than ten percent (10%) of the number of total bags are capped.

D.2.10 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The process associated with the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, the process associated with the failed baghouse will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.11 Record Keeping Requirements

(a) To document compliance with Condition D.2.7, the Permittee shall maintain records of visible emission notations of the facilities stack exhausts once per shift.

(b) To document compliance with Condition D.2.8, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.2.9, the Permittee shall maintain records of the results of the inspections required under Condition D.2.9 and the dates the vents are re-directed.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70
Significant Permit Modification

Source Background and Description

Source Name:	**United States Mineral Products Company d/b/a Isolatek International**
Source Location:	**701 North Broadway, Huntington, Indiana 46750**
County:	**Huntington**
SIC Code:	**3296**
Operation Permit No.:	**T 069-5660-00021**
Operation Permit Issuance Date:	**December 28, 1999**
Significant Permit Modification No.:	**069-16136-00021**
Permit Reviewer:	**Mark L. Kramer**

The Office of Air Quality (OAQ) has reviewed a modification application from United States Mineral Products Company d/b/a Isolatek International relating to the operation of new controls on the two (2) existing cupolas, known as EU#1 and EU#2, to correct the equipment capacities of existing permitted facilities and to incorporate the MACT requirements of 40 CFR 63, Subpart DDD, National Emission Standards for Hazardous Air Pollutants from Mineral Wool Production Plants.

The facilities with corrected capacities have not been modified, reconstructed, or had their actual capacities increased since the original Part 70 Permit application was received on April 2, 1996 or the Part 70 Operating Permit was issued on December 28, 1999. United States Mineral Products Company d/b/a Isolatek International has stated that the capacities have not changed. The corrected capacities for the two (2) cupolas, known as EU#1 and EU#2 will decrease from 7.2 to 5.0 tons of melt per hour each, the two (2) blowchambers, known as EU#3 and EU#4, will decrease from 6.0 to 4.0 tons of molten mineral feed per hour, the one (1) of the portable hoppers, known as EU#27, will increase from 0.2 to 0.75 tons of dry powdered binders per hour and the one (1) hammermill/cyclone, known as EU#28, will increase from 2.0 to 8.0 tons of mineral wool per hour.

Therefore, since the Permittee has claimed that these existing facilities have not undergone any change, a source modification is not required. The changes in potential-to-emit will be documented in this modification.

History

On October 5, 2001, United States Mineral Products Company d/b/a Isolatek International notified Ryan Hillman that the Permittee intended to install new controls to comply with the MACT standard for mineral wool. In addition, the source requested that IDEM, OAQ extend the MACT compliance date from June 2, 2002 until June 3, 2003 as allowed under 40 CFR 63.1180. On March 22, 2002, IDEM, OAQ approved the extension of the compliance date for Subpart DDD to June 3, 2003.

Between September 11 - 18, 2002, the existing two (2) baghouses for the cupolas were replaced by a single, close-capture hood, by-pass stack, forced convection heat exchanger, dilution damper and a multi-compartment baghouse exhausting to a single stack. The exhaust from the two (2)

cupolas will be captured by a single exhaust hood with gravity swing doors to enhance the capture of emissions when charging the cupolas and to minimize air infiltration into the exhaust system. The hood is equipped with a continuous temperature monitor with an alarm. The by-pass stack will remained closed except during malfunctions, and start-ups and shutdowns. The by-pass stack emissions were included in the estimated uncontrolled emission rates. The source does not anticipate by-pass stack emissions to occur except during unforseen circumstances. The estimated controlled emission rate is conservative and as such has the potential by-pass stack emissions, if any, included.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
#1	Cupolas #1 & #2	48.0	4.00	40,000	350

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 18, 2002. Additional information was received on November 21 and December 27, 2002.

Emission Calculations

See pages 1 - 8 of 8 of Appendix A of this document for detailed emissions calculations updating the entire source. Note emission factors have also changed for the silos based on AP-42 Chapter 11.12 revision in 2001.

Justification for Modification

The Part 70 Operating Permit is being modified through a Part 70 Significant Permit Modification. This modification is being performed pursuant to 326 IAC 2-7-12(d) since this modification incorporates the requirements for NESHAP, Subpart DDD for mineral wool production.

Potential To Emit

Due to the revisions in emission factors and revised capacities, the following table updates the potential to emit before controls.

Pollutant	Potential To Emit (tons/year)
PM	3,726
PM_{10}	3,540
SO_2	506
VOC	255
CO	15,768
NO_X	101

Potential to Emit of the Entire Source After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
EU#1	2.10	2.10	252	0.000	7,884	50.5	94.6
EU#2	2.10	2.10	252	0.000	7,884	50.5	94.6
EU#3	21.0	21.0	0.572	127	0.000	0.000	0.000
EU#4	21.0	21.0	0.572	127	0.000	0.000	0.000
EU#5	2.63	2.63	0.000	0.000	0.000	0.000	0.000
EU#6	2.63	2.63	0.000	0.000	0.000	0.000	0.000
EU#7	0.219	0.219	0.000	0.000	0.000	0.000	0.000
EU#8	0.044	0.044	0.000	0.000	0.000	0.000	0.000
EU#9	1.70	1.09	0.000	0.000	0.000	0.000	0.000
EU#10	1.70	1.09	0.000	0.000	0.000	0.000	0.000
EU#11	1.70	1.09	0.000	0.000	0.000	0.000	0.000
EU#12	0.219	0.219	0.000	0.000	0.000	0.000	0.000
EU#13	2.19	2.19	0.000	0.000	0.000	0.000	0.000
EU#14 - 24, 27 & 28	19.0	19.0	0.000	0.000	0.000	0.000	0.000
EU#25 & 26	0.657	0.657	0.000	0.000	0.000	0.000	0.000
EU#29 & 30	2.46	1.17	0.000	0.000	0.000	0.000	0.000
EU#31	0.088	0.088	0.000	0.000	0.000	0.000	0.000

EU#34, 35, 38 & 39	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EU#40	1.25	1.25	0.000	0.000	0.000	0.000	0.000
Total	82.8	79.6	506	255	15,768	101	189

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) Effective June 3, 2003, the two (2) cupolas are subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR Part 63, Subpart DDD, National Emission Standards for Hazardous Air Pollutants from Mineral Wool Production Plants.).

The provisions of 40 CFR Part 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63 Subpart DDD.

The two (2) cupolas are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 326 IAC 14, (40 CFR Part 63, Subpart DDD, and 326 IAC 14). Pursuant to 40 CFR Part 63, Subpart DDD, and 326 IAC 14, the cupolas are subject to the following conditions:

(1) Pursuant to 40 CFR Part 63.1178, at all times, except during periods of startup, shutdown, or malfunction, the particulate matter (PM) emissions from two (2) cupolas, known as EU#1 and EU#2, shall each not exceed 0.10 pound of PM per ton of melt.

(2) The Permittee shall use the following equation to demonstrate compliance with the PM emission limit for the cupolas:

$$E = \frac{C \times Q \times K_1}{P}$$

where: E = Emission rate of PM, kg/Mg (lb/ton) of melt.
C = Concentration of PM, g/dscm (gr/dscf).
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr).
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr).
P = Average melt rate, Mg/hr (ton/hr).

(3) By December 3, 2003, which is 180 days after the June 3, 2003 compliance date, the Permittee shall conduct a performance test in order to demonstrate compliance with the PM limit for each cupola as specified in 40 CFR Part 63.1188 utilizing method as approved by the Commissioner and show compliance with the PM emission limit while the bag leak detection system is installed, operational, and properly adjusted.

(4) To be in compliance with the PM emission limit, pursuant to 40 CFR Part 63.1181, the Permittee shall:

(A) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter pursuant to 40 CFR Part 63.1184.

(B) Begin corrective actions specified in the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1187 within one (1) hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

(C) Develop and implement a written quality improvement plan (QIP) consistent with compliance assurance monitoring requirements of 40 CFR Part 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period.

(5) Pursuant to 40 CFR Part 63.1178, the operating limits for each cupola are as follows:

(A) Begin within one (1) hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in by the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1178, and

(B) When the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period, the Permittee shall develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of 40 CFR Part 64.8(b) - (d).

(6) Pursuant to 40 CFR Part 63.10(b) and 40 CFR Part 63.1192, the Permittee shall:

(A) Maintain files of all information required by 40 CFR Part 63.10(b) of the general provisions in Subpart A of this part, including all notifications and reports.

(B) Maintain records of the following information:

(i) Cupola feed rate (tons per hour) of melt.

(ii) All bag leak detection system alarms. Include the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(C) Retain each record for at least five (5) years following the date of each occurrence, measurement, corrective action, maintenance, record, or report. The most recent two (2) years of records must be retained at the facility. The remaining three (3) years of records may be retained off site.

The Indiana State rule cited in Section C - General Record Keeping, which requires the records be kept at the source location for a minimum of three (3) years, is more stringent. Therefore, the Permittee shall maintain the most recent three (3) years of records at the source and the remaining two (2) years of records may be retained off site.

(D) Records may be retained on microfilm, on microfiche, on a computer, on computer disks, or on magnetic tape disks.

(E) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

(7) Pursuant to 40 CFR Part 63.1193, the Permittee shall prepare and submit reports to the IDEM, OAQ as required by this subpart and 40 CFR Part 63.10 of the general provisions in Subpart A of this part. These reports include, but are not limited to, the following:

(A) A performance test report, as required by 40 CFR Part 63.10(d)(2) of the general provisions in Subpart A of this part, that documents the process and control equipment operating parameters during the test period, the test methods and procedures, the analytical procedures, all calculations, and the results of the performance tests.

(B) A startup, shutdown, and malfunction plan, as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part, that contains specific procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the emission standards. In addition to the information required by 40CFR Part 63.6(e)(3), the plan must include the following:

(i) Procedures to determine and record what caused the malfunction and when it began and ended.

(ii) Corrective actions you will take if a process or control device malfunctions, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(iii) An inspection and maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(C) A report of each event as required by 40 CFR Part 63.10(b) of the general provisions in subpart A of this part, including a report if an action taken during a startup, shutdown, or malfunction is inconsistent with the procedures in the plan as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part.

(D) An operations, maintenance, and monitoring plan as specified in 40 CFR Part 63.1187 of this subpart.

(E) A semiannual report as required by 40 CFR Part 63.10(e)(3) of the general provisions in Subpart A of this part if measured emissions exceed the applicable standard or a monitored parameter varies from the level established during performance testing. The report must contain the information specified in 40 CFR Part 63.10(c) of the general provisions, as well as the relevant records required by 40 CFR Part 63.1192(b) of this Subpart.

(F) A semiannual report stating that no excess emissions or deviations of monitored parameters occurred during the reporting period as required by 40 CFR Part 63.10 (e)(3)(v) of the general provisions in Subpart A of this part if no deviations have occurred.

(G) Report the required information on paper or on a labeled computer disk using commonly available and compatible computer software.

(8) Pursuant to 40 CFR Part 63.1191, the Permittee shall submit written notifications to the address listed in Section C - General Reporting Requirements as required by 40 CFR Part 63.9(b) - (h) of the General Provisions in Subpart A of 40 CFR Part 63.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The existing source is a major PSD source. Although the capacities on several of the emission units increased, as stated in the TSD for the Part 70 Operating Permit, issued December 28, 1999, emission units installed prior to 1980, with an unknown installation date, or in 1980, have been assumed to pre-date the applicability of this rule since permits were issued for this source only in 1979 and 1985. Therefore, no emission limits are necessary to render the requirements of 326 IAC 2-2 are not applicable for those emission units installed in 1980 that have had their description modified by this modification (EU#27 and EU#28).

Note that the capacities of the two (2) cupolas, known as EU#1 and EU#2 as well as the two (2) blowchambers, known as EU#3 and EU#4 have had their capacities decreased and all of these emission units were installed prior to the August 7, 1977 PSD applicability date..

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) Pursuant to 326 IAC 6-3-2, the particulate from the two (2) cupolas shall not exceed 19.2 pounds per hour when operating at a total process weight rate of 10.0 tons per hour.

(b) Pursuant to 326 IAC 6-3-2, the particulate from the two (2) blowchambers, known as EU#3 and EU#4 shall not exceed 10.4 pounds per hour each when operating at a total process weight rate of 4.0 tons per hour each.

(c) Pursuant to 326 IAC 6-3-2, the particulate from the portable hopper #3, known as EU#27, shall not exceed 3.38 pounds per hour when operating at a total process weight rate of 0.75 tons per hour.

(d) Pursuant to 326 IAC 6-3-2, the particulate from the hammermill/cyclone, known as EU#28, shall not exceed 16.5 pounds per hour when operating at a total process weight rate of 8.0 tons per hour.

(e) These limitations are based upon the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The baghouses shall be in operation at all times the cupolas, portable hopper #3 and hammermill/cyclone are in operation, in order to comply with these limits.

The screenhouses shall be in operation at all times the blowchambers are in operation, in order to comply with these limits.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

In addition to the existing compliance monitoring requirements, the following new compliance monitoring requirements are applicable to this source are as follows:

(a) The two (2) cupolas applicable compliance monitoring conditions as specified below:

(1) Pursuant to 40 CFR Part 63.1181, the Permittee shall:

(A) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter pursuant to 40 CFR Part 63.1184.

(B) Begin corrective actions specified in the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1187 within one (1) hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

(C) Develop and implement a written quality improvement plan (QIP) consistent with compliance assurance monitoring requirements of 40 CFR Part 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period.

(2) Pursuant to 40 CFR Part 63.1178, the operating limits for each cupola are as follows:

(A) Begin within one (1) hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in by the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1178, and

(B) When the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period, the Permittee shall develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of 40 CFR Part 64.8(b) - (d).

These monitoring conditions are necessary because the baghouse for the melting process must operate properly to ensure compliance with NESHAP Subpart DDD and 326 IAC 2-7 (Part 70).

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Two (2) short stack # 1 and # 2 cupolas, known as EU#1 and EU#2, installed before 1960, ~~each~~ equipped with a baghouse, known as CE#1~~ and CE#2~~, exhausted to Stack #1~~ and Stack #2, respectively~~, capacity: **5.0** ~~7.2~~ tons of **melt** ~~molten material~~ per hour, **and 1.5 tons of coke feed per hour,** each.

(b) Two (2) blowchambers, known as EU#3 and EU#4, installed before 1978, each equipped with a screenhouse, known as CE#3 and CE#4, (#1 and #2 screenhouse), capacity: **4.0** ~~6.0~~ tons of **molten mineral feed** ~~fibers~~ per hour, each.

(i) One (1) portable hopper, known as EU#27 (portable hopper #3), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: **0.75** ~~0.2~~ ton of dry powdered binders per hour.

(j) One (1) hammermill/cyclone, known as EU#28, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: **8.0** ~~2.0~~ tons of mineral wool per hour.

Compliance Requirement [326 IAC 2-1.1-11]

C.10 Compliance Schedule [40 CFR Part 63, Subpart DDD]

(a) On April 15, 2002, IDEM, OAQ, pursuant to 40 CFR Part 63.1180, approved an extension of the final compliance standards and date contained in 40 CFR Part 63, Subpart DDD for the two (2) cupolas, known as EU#1 and EU#2. The termination date of this extension is June 3, 2003, which is the final compliance date for 40 CFR Part 63, Subpart DDD.

(b) The Permittee shall operate the two (2) cupolas, known as EU#1 and EU#2, in compliance with emission limits specified by June 3, 2003.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) Two (2) short stack # 1 and # 2 cupolas, known as EU#1 and EU#2, installed before 1960, ~~each~~ equipped with a baghouse, known as CE#1 ~~and CE#2~~, exhausted to Stack #1 ~~and Stack #2~~, respectively, capacity: **5.0** ~~7.2~~ tons of **melt** ~~molten material~~ per hour, **and 1.5 tons of coke feed per hour** each.

(b) Two (2) blowchambers, known as EU#3 and EU#4, installed before 1978, each equipped with a screenhouse, known as CE#3 and CE#4, (#1 and #2 screenhouse), capacity: **4.0** ~~6.0~~ tons of **molten mineral feed** ~~fibers~~ per hour, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A]

Effective June 3, 2003, the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the two (2) cupolas, known as EU#1 and EU#2, described in this section except when otherwise specified in 40 CFR Part 63, Subpart DDD.

D.1.2 Mineral Wool Production NESHAP [40 CFR 63, Subpart DDD]

(a) Effective June 3, 2003, pursuant to 40 CFR Part 63.1180, the two (2) existing cupolas, known as EU#1 and EU#2, are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), (40 CFR Part 63, Subpart DDD).

(b) Effective June 3, 2003, pursuant to 40CFR Part 63.1178, at all times, except during periods of startup, shutdown, or malfunction, the particulate matter (PM) emissions from two (2) cupolas, known as EU#1 and EU#2, shall each not exceed 0.10 pound of PM per ton of melt.

D.1.~~3~~1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process operations), the allowable PM emission rate from:

(a) ~~Each of~~ **T**~~t~~he two (2) cupolas (EU#1 and EU#2) shall not exceed **19.2** ~~15.4~~ pounds per hour ~~each~~ when operating at a **total** process weight rate of **10.0** ~~7.2~~ tons of **melt** ~~molten mineral~~ per hour.

(b) Each of the two (2) blowchambers (EU#3 and EU#4) shall not exceed **10.4** ~~13.6~~ pounds per hour each when operating at a process weight rate of **4.0** ~~6.0~~ tons of molten mineral **feed** per hour.

(c) The pounds per hour emission limitations were calculated with the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.~~4~~2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.1.5 Compliance Demonstration [40 CFR Part 63.1190]

The Permittee shall use the following equation to demonstrate compliance with the PM emission limit specified in Condition D.1.2(b) for the cupolas:

$$E = \frac{C \times Q \times K_1}{P}$$

where: E = Emission rate of PM, kg/Mg (lb/ton) of melt.
C = Concentration of PM, g/dscm (gr/dscf).
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr).
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr).
P = Average melt rate, Mg/hr (ton/hr).

D.1.~~6~~3 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM testing of the exhaust stack~~s~~ serving the two (2) cupolas (Stack~~s~~ #1 ~~and #2~~) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(b) The Permittee is not required to test the two (2) blowchambers by this permit. However, IDEM may require compliance testing when necessary to determine if these facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

(c) By December 3, 2003, which is 180 days after the June 3, 2003 compliance date, the Permittee shall conduct a performance test in order to demonstrate compliance with Condition D.1.2(b) for each cupola as specified in 40 CFR Part 63.1188 utilizing method as approved by the Commissioner and show compliance with the PM emission limits while the bag leak detection system is installed, operational, and properly adjusted.

D.1.~~7~~4 Particulate Matter (PM)

The baghouse~~s~~ (CE#1 ~~and/or CE#2~~) and the screenhouses (CE#3 and/or CE#4) for PM control shall be in operation at all times when the cupolas (EU#1 and/or EU#2) and the blowchambers (EU#3 and/or EU#4) are in operation and exhausting to the outside atmosphere.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.~~8~~5 Visible Emissions Notations

(a) Visible emission notations of the two (2) cupola (EU#1 and #2) and two blowchamber (EU#3 and #4) stack exhausts (Stack #1, ~~#2,~~ #3 and #4) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee

shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.**9**~~6~~ Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse~~s~~ (CE#1 ~~and CE#2~~) and screenhouses (CE#3 and CE#4) used in conjunction with the two (2) cupolas and two (2) blowchambers, at least once daily when the insulation manufacturing processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouse~~s~~ CE#1 ~~and CE#2~~ shall be maintained within the range of **4.0** ~~3.0~~ and **14.0** ~~12.0~~ inches of water and the pressure drop across screenhouses CE#3 and CE#4 shall be maintained within the range of 0.2 and 10.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.**10**~~7~~ Baghouse and Screenhouse Inspections

(a) An inspection shall be performed each calendar quarter of all bags controlling the two (2) cupolas when venting to the atmosphere. All defective bags shall be replaced or the associated tubesheet opening capped as long as no more than ten percent (10%) of the number of total bags; thirty (30) bags for the cupola #1 baghouse; and sixty (60) bags for the cupola #2 baghouse, are capped.

(b) An inspection shall be performed each calendar quarter of all screens controlling the two (2) blowchambers when venting to the atmosphere. All defective screens shall be replaced.

D.1.**11**~~8~~ Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The process associated with the affected compartments will be shut down or process charge suspended (process banked) immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the

emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, the process associated with the failed baghouse will be shut down or process charge suspended (process banked) immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.12 Cupola Bag Leak Detection System [40 CFR Parts 63.1178, 1181, 1184 and 1187] [40 CFR Part 64.8(b) through (d)]

(a) To be in compliance with the PM emission limit, pursuant to 40 CFR Part 63.1181, the Permittee shall:

(1) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter pursuant to 40 CFR Part 63.1184.

(2) Begin corrective actions specified in the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1187 within one (1) hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

(3) Develop and implement a written quality improvement plan (QIP) consistent with compliance assurance monitoring requirements of 40 CFR Part 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period.

(b) Pursuant to 40 CFR Part 63.1178, the operating limits for each cupola are as follows:

(1) Begin within one (1) hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in by the operations, maintenance, and monitoring plan required by 40 CFR Part 63.1178, and

(2) When the alarm on a bag leak detection system sounds for more than five (5%) percent of the total operating time in a six (6)-month reporting period, the Permittee shall develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of 40 CFR Part 64.8(b) - (d).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.**13**~~9~~ Record Keeping Requirements

(a) To document compliance with Condition D.1.**8**~~5~~, the Permittee shall maintain records of visible emission notations of the two (2) cupola and two (2) blowchamber stack exhausts once per shift.

(b) To document compliance with Condition D.1.**9**~~6~~, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure drop across the baghouse tube-sheet; and

(B) Cleaning cycle: frequency (baghouses that have cleaning cycles preset by the manufacturer, the Permittee can document the cycle once, versus re-documenting a preset every day) and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(c) To document compliance with Condition D.1.**10**~~7~~, the Permittee shall maintain records of the results of the inspections required under Condition D.1.**10**~~7~~.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Record Keeping Requirements [40 CFR Part 63.10(b)] [40 CFR Part 63.1192]

Pursuant to 40 CFR Part 63.10(b) and 40 CFR Part 63.1192, the Permittee shall:

(a) Maintain files of all information required by 40 CFR Part 63.10(b) of the general provisions in Subpart A of this part, including all notifications and reports.

(b) Maintain records of the following information:

(1) Cupola feed rate (tons per hour) of melt.

(2) All bag leak detection system alarms. Include the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(c) Retain each record for at least five (5) years following the date of each occurrence, measurement, corrective action, maintenance, record, or report. The most recent two (2) years of records must be retained at the facility. The remaining three (3) years of records may be retained off site.

The Indiana State rule cited in Section C - General Record Keeping, which requires the records be kept at the source location for a minimum of three (3) years, is more stringent. Therefore, the Permittee shall maintain the most recent three (3) years of records at the source and the remaining two (2) years of records may be retained off site.

(d) Records may be retained on microfilm, on microfiche, on a computer, on computer disks, or on magnetic tape disks.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.15 Reporting Requirements [40 CFR Part 63.10(d) and 40 CFR Part 63.1193]

Pursuant to 40 CFR Part 63.1193, the Permittee shall prepare and submit reports to the IDEM, OAQ as required by this subpart and 40 CFR Part 63.10 of the general provisions in Subpart A of this part. These reports include, but are not limited to, the following:

(a) A performance test report, as required by 40 CFR Part 63.10(d)(2) of the general provisions in Subpart A of this part, that documents the process and control equipment operating parameters during the test period, the test methods and procedures, the analytical procedures, all calculations, and the results of the performance tests.

(b) A startup, shutdown, and malfunction plan, as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part, that contains specific procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the emission standards. In addition to the information required by 40CFR Part 63.6(e)(3), the plan must include the following:

(1) Procedures to determine and record what caused the malfunction and when it began and ended.

(2) Corrective actions you will take if a process or control device malfunctions, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(3) An inspection and maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(c) A report of each event as required by 40 CFR Part 63.10(b) of the general provisions in subpart A of this part, including a report if an action taken during a startup, shutdown, or malfunction is inconsistent with the procedures in the plan as described in 40 CFR Part 63.6(e)(3) of the general provisions in Subpart A of this part.

(d) An operations, maintenance, and monitoring plan as specified in 40 CFR Part 63.1187 of this subpart.

(e) A semiannual report as required by 40 CFR Part 63.10(e)(3) of the general provisions in Subpart A of this part if measured emissions exceed the applicable standard or a monitored parameter varies from the level established during performance testing. The report must contain the information specified in 40 CFR Part 63.10(c) of the general provisions, as well as the relevant records required by 40 CFR Part 63.1192(b) of this Subpart.

(f) A semiannual report stating that no excess emissions or deviations of monitored parameters occurred during the reporting period as required by 40 CFR Part 63.10 (e)(3)(v) of the general provisions in Subpart A of this part if no deviations have

occurred.

(g) Report the required information on paper or on a labeled computer disk using commonly available and compatible computer software.

D.1.16 Notification Requirements [40 CFR Part 63.1191]

Pursuant to 40 CFR Part 63.1191, the Permittee shall submit written notifications to the address listed in Section C - General Reporting Requirements as required by 40 CFR Part 63.9(b) - (h) of the General Provisions in Subpart A of 40 CFR Part 63.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(c) Three (3) hoppers, known as EU#14, EU#15 and EU#17 (hopper #1, #2 and #4), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 5.0 tons of dry powdered binders per hour, each.

(d) Two (2) hoppers, known as EU#16 and EU#18 (hopper #3 and #5), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 0.2 ton of dry powdered binders per hour, each.

(e) One (1) live bottom hopper, known as EU#19, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(f) One (1) granulator, known as EU#20, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 8.0 tons of mineral wool per hour.

(g) One (1) bagger, known as EU#21, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour.

(h) Two (2) augers, known as EU#23 and EU#24, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: 12.0 tons of blended product per hour, each.

(i) One (1) portable hopper, known as EU#27 (portable hopper #3), installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: **0.75** ~~0.2~~ ton of dry powdered binders per hour.

(j) One (1) hammermill/cyclone, known as EU#28, installed in 1980, equipped with a baghouse, known as CE#9, exhausted to Stack #9, capacity: **8.0** ~~2.0~~ tons of mineral wool per hour.

(k) Two (2) portable hoppers, known as EU#25 and EU#26, (portable hoppers #1 and #2, respectively), installed in 1980, exhausted inside the building, capacity: 0.75 tons of dry powdered binders per hour, each.

(l) Two (2) mineral wool balers, known as EU#5 and EU#6, installed before 1980, exhausted inside the building, capacity: 6.0 tons of baled mineral wool per hour, each.

(m) One (1) front end mineral wool bagger, known as EU#7, installed in 1987, equipped with a baghouse, known as CE#5, exhausted to Stack #5, capacity: 5.0 tons of bagged mineral wool per hour.

(n) One (1) mineral wool bin, known as EU#8, installed in 1983 or 1984, equipped with a pneumatic conveyor that incorporates a totally enclosed air recycled system, capacity: 10.0 tons of mineral wool per hour.

(o) One (1) gypsum silo, known as EU#9, installed before 1980, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(p) One (1) chipped gypsum silo, known as EU#10, installed in 1991, equipped with a baghouse, known as CE#8, exhausted to Stack #8, capacity: 54.0 tons of gypsum per hour.

(q) One (1) cement silo, known as EU#11, installed in 1990, equipped with a baghouse, known as CE#7, exhausted to Stack #7, capacity: 54.0 tons of Portland cement per hour.

(r) One (1) batch blender, known as EU#12, installed in 1993, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 5.0 tons of blended product per hour.

(s) One (1) debaler, known as EU#13, installed in 1980, exhausted inside the building, capacity: 5.0 tons of mineral wool per hour.

(t) One (1) raw material receiving yard, known as EU#29, installed prior to 1980, capacity: 216 tons of rock, slag and coke per hour.

(u) One (1) batching station, known as EU#30, installed prior to 1980, capacity: 14.4 tons of rock and coke per hour.

(v) One (1) ribbon blender, known as EU# 31, installed in 1988, equipped with a baghouse, known as CE#6, exhausted to Stack #6, capacity: 2.0 tons of dry powdered binders per year.

(w) One (1) dedust oil tank, known as EU#34, installed prior to 1980, exhausted to Stack # 17, capacity: 7,000 gallons.

(x) One (1) PEG400 VOC tank, known as EU#35, installed in 1990, capacity: 8,000 gallons.

(y) One (1) Dedust oil tank, known as EU#38, installed in 1997, exhausted to Stack #21, capacity: 8,000 gallons.

(z) Removed by AAT 069-12578.

(aa) One (1) mixed binder surge hopper scale system, known as EU#40, installed in 2000, equipped with an existing baghouse, known as CE#9, exhausted to Stack #9, capacity: 5.0 tons of powdered binders per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rates from the indicated facilities shall not exceed the PM emission limitations specified at the specified process weight rates listed in following table:

Emission Unit(s)	Process Weight Rate (tons per hour)	Allowable PM Emission Rate (pounds per hour)
EU#5 and EU#6	6.0, each	13.6, each
EU#7	5.0	12.1
EU#8	10.0	19.2
EU#9 and EU#10	54.0, each	45.3, each
EU#11	54.0	45.3
EU#12 and EU#13	5.0, each	12.1, each
EU#14 and EU#15	5.0, each	12.1, each
EU#16	0.2	1.40
EU#17 & EU#40	5.0, each	12.1 total
EU#18	0.2	1.40
EU#19 and EU#20	8.0, each	16.5, each
EU#21, EU #23 & EU#24	12.0, each	21.7, each
EU#25 and EU#26	0.75, each	3.38, each
EU#27	**0.75** ~~0.2~~	**3.38** ~~1.40~~
EU#28	**8.0** ~~2.0~~	**16.5** ~~6.52~~
EU#31	2.0	6.52

The pounds per hour limitations were calculated with the following equations:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

and

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for facilities, EU#7 - EU#12, EU#14, EU#15, EU#17, EU#19 - EU#24, ~~and~~ EU#27 **and EU#28**, and their control devices.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.7 Visible Emissions Notations

(a) Visible emission notations of emission units EU#7 - EU#12, EU#14, EU#15, EU#17, EU#19, EU#24**,** ~~and~~ EU#27 **and EU#28** stack exhausts (Stack #5, #6, #7, #8 and #9) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses (CE#5 - CE#9) used in conjunction with emission units EU# 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, ~~and~~ 28 **and 40** at least once daily when the insulation manufacturing processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouses CE#5 and CE#6 shall be maintained within the range of 1.0 and 6.0 inches of water, the pressure drop across baghouses CE#7 and CE#8 shall be maintained within the range of 1.0 and 6.0 inches of water, and the pressure drop across baghouse CE#9 shall be maintained within the range of 0.2 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

In addition, all references to the Office of Air Management have been changed to the Office of Air Quality. Also, all references to OAM have been changed to OAQ.

Conclusion

The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 069-16136-00021.

Appendix A: Emission Calculations
Baghouse Operations

Company Name: United States Mineral Products Company d.b.a. Isolatek International
Address City IN Zip: 701 North Broadway, Huntington, Indiana 46750
Modification: 069-16136
Plt ID: 069-00021
Reviewer: Mark L. Kramer
Date: September 18, 2002

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lbs/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lbs/hr)	Emission Rate after Controls (tons/yr)
CE#1/EU#1 & EU#2	99.4%	0.0029	40000.0	165.7	725.83	0.994	4.35
CE#3/EU#3	90.0%	0.020	28000.0	48.0	210.24	4.800	21.02
CE#4/EU#4	90.0%	0.020	28000.0	48.0	210.24	4.800	21.02
CE#5/EU#7	99.0%	0.040	5000.0	171.4	750.86	1.714	7.51
CE#6/EU#8, 12 & 31	99.0%	0.010	7500.0	64.3	281.57	0.643	2.82
CE#8/EU#9 & EU#10	99.0%	0.030	300.0	7.7	33.79	0.077	0.338
CE#7/EU#11	99.0%	1.000	300.0	257.1	1126.29	2.571	11.263
CE#9/EU#14-21, 23, 24, 27, 28 & 40	99.0%	0.010	7500.0	64.3	281.57	0.643	2.82
				Totals	3620.38		71.14

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

For Process Weight Rates
less than or equal to 30 tons per hour

Allowable Emissions = 4.10(Process Weight Rate)^0.67

For Process Weight Rates
more than or equal to 30 tons per hour

Allowable Emissions = 55(Process Weight Rate)^0.11 - 40

Unit ID	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)		Emission Rate after Controls (tons/yr)
CE#1/EU#1& EU#2	10.00	19.18		4.35
CE#3/EU#3	4.00	10.38		21.02
CE#4/EU#4	4.00	10.38		21.02
CE#5/EU#7	5.00	12.05		7.51
CE#6/EU#12	5.00	12.05		
CE#6/ EU#31	2.00	6.52		
CE#6/ EU#8	10.00	19.18		
CE#6/EU#8, 12 & EU#31	17.00	27.36		2.82
CE#8/EU#9	54.00	45.30		
CE#8/EU#10	54.00	45.30		
CE#8/EU#9 & EU#10	54.00	45.30		0.338
CE#7/EU#11	54.00	45.30		11.26
CE#9/EU#14-15,17 EACH	5.00	12.05		
CE#9/EU#16,18 EACH	0.20	1.39		
CE#9/EU 19, 20 EACH	8.00	16.51		
CE#9/EU#21, 23 & 24 EACH	12.00	21.67		
CE#9/EU#28	8.00	16.51		
CE#9/EU#14-21, 23, 24, 27, 28 & 40	81.15	49.20		2.82
Total				71.14

Emission Unit **EU#1 Cupola #1**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	5.0	16.0	80.0	350.4	99.4%	0.480	2.10	19.2	AP-42 Table 11.18-2
PM-10	5.0	16.0	80.0	350.4	99.4%	0.480	2.10	For EU#1 &	AP-42 Table 11.18-2
SO2	7.2	8.0	57.60	252.29	0.0%	57.600	252.29	EU#2	AP-42 Table 11.18-4
NOx	7.2	1.6	11.52	50.46	0.0%	11.520	50.46		AP-42 Table 11.18-6
VOC	7.2	0.0	0.00	0.00	0.0%	0.000	0.00		
CO	7.2	250.0	1800.00	7884.00	0.0%	1800.000	7884.00		AP-42 Table 11.18-4
CS	7.2	3.0	21.60	94.61	0.0%	21.600	94.608		AP-42 Table 11.18-6

Emission Unit **EU#2 Cupola #2**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	5.0	16.0	80.0	350.4	99.4%	0.480	2.10	19.2	AP-42 Table 11.18-2
PM-10	5.0	16.0	80.0	350.4	99.4%	0.480	2.10	For EU#1 &	AP-42 Table 11.18-2
SO2	7.2	8.0	57.60	252.29	0.0%	57.600	252.29	EU#2	AP-42 Table 11.18-4
NOx	7.2	1.6	11.52	50.46	0.0%	11.520	50.46		AP-42 Table 11.18-6
VOC	7.2	0.0	0.00	0.00	0.0%	0.000	0.00		
CO	7.2	250.0	1800.00	7884.00	0.0%	1800.000	7884.00		AP-42 Table 11.18-4
CS	7.2	3.0	21.60	94.61	0.0%	21.600	94.608		AP-42 Table 11.18-6

Emission Unit **EU#3 Blowchamber #1**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	4.0	12.00	48.0	210.2	90.0%	4.80	21.0	10.4	AP-42 Table 11.18-2
PM-10	4.0	12.00	48.0	210.2	90.0%	4.80	21.0		AP-42 Table 11.18-2
SO2	1.5	0.087	0.13	0.57	0.0%	0.131	0.57		AP-42 Table 11.18-4
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		AP-42 Table 11.18-6
VOC	1.5	19.40	29.10	127.46	0.0%	29.100	127.46		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		AP-42 Table 11.18-4

Emission Unit **EU#4 Blowchamber #2**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	4.0	12.00	48.0	210.2	90.0%	4.80	21.0	10.4	AP-42 Table 11.18-2
PM-10	4.0	12.00	48.0	210.2	90.0%	4.80	21.0		AP-42 Table 11.18-2
SO2	1.5	0.087	0.13	0.572	0.0%	0.131	0.572		AP-42 Table 11.18-4
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		AP-42 Table 11.18-6
VOC	1.5	19.40	29.10	127.46	0.0%	29.100	127.46		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		AP-42 Table 11.18-4

Emission Unit **EU#5 Wool Baler**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	6.0	0.10	0.6	2.6	0.0%	0.600	2.63	13.6	Engineering Judgment
PM-10	6.0	0.10	0.6	2.6	0.0%	0.600	2.63		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#6 Wool Baler**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	6.0	0.10	0.6	2.6	0.0%	0.600	2.63	13.6	Engineering Judgment
PM-10	6.0	0.10	0.6	2.6	0.0%	0.600	2.63		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#7 Bagger**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	5.0	1.00	5.0	21.9	99.0%	0.050	0.219	12.1	Measurement at CE#5
PM-10	5.0	1.00	5.0	21.9	99.0%	0.050	0.219		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#8 Wool Bin**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	10.0	0.10	1.0	4.4	99.0%	0.0100	0.0438	19.2	Engineering judgment
PM-10	10.0	0.10	1.0	4.4	99.0%	0.0100	0.0438		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#9 Gypsum Silo**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	54.0	**0.72**	38.9	170.3	99.0%	0.389	1.70	45.3	**AP-42 Ch 11.12-2**
PM-10	54.0	**0.46**	24.8	108.8	99.0%	0.248	1.09		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#10** **Chip Gypsum Silo**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	54.0	**0.72**	38.9	170.3	99.0%	0.389	1.70	45.3	**AP-42 Ch 11.12-2**
PM-10	54.0	**0.46**	24.8	108.8	99.0%	0.248	1.09		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#11** **Cement Silo**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	54.0	**0.72**	38.9	170.3	99.0%	0.389	1.703	45.3	**AP-42 Ch 11.12-2**
PM-10	54.0	**0.46**	24.8	108.8	99.0%	0.248	1.088		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#12** **Batch Blender**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	5.0	1.00	5.0	21.9	99.0%	0.050	0.219	12.1	Measured at CE#6
PM-10	5.0	1.00	5.0	21.9	99.0%	0.050	0.219		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#13 Debaler**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	5.0	0.10	0.5	2.19	0.0%	0.500	2.190	12.1	Engineering judgment
PM-10	5.0	0.10	0.5	2.19	0.0%	0.500	2.190		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **CE#9/EU#14-21, 23, 24, 27, 28 CAFCO blend line**

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	**76.2**	5.70	434.1	1901.2	99.0%	4.341	19.012	48.6	Measured at CE#9
PM-10	**76.2**	5.70	434.1	1901.2	99.0%	4.341	19.012		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#25 & EU#26 Portable Hoppers #1 & #2** (0.75 each)

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	1.5	0.10	0.15	0.657	0.0%	0.150	0.657	5.38	Engineering Judgment
PM-10	1.5	0.10	0.15	0.657	0.0%	0.150	0.657		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#29 & EU30** **Fugitive**
Raw Material Receiving Yard & Batching Station

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	
PM	230.4	0.00244	0.562	2.46	0.0%	0.562	2.46	Engineering Judgment
PM-10	230.4	0.00116	0.267	1.17	0.0%	0.267	1.17	
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00	
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00	
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00	
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00	

Emission Unit **EU#31**
Ribbon Blender

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Allowable Emission Rate (lbs/hr)	
PM	2.0	1.00	2.00	8.76	99.0%	0.020	0.088	6.52	Engineering Judgment
PM-10	2.0	1.00	2.00	8.76	99.0%	0.020	0.088		
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00		

Emission Unit **EU#34, 35, 38, 39** **Negligible emissions**
Storage tanks and perlite hopper

Emission Unit **CE#9/EU#40**
AA 069-12578-00021

Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	5.0	5.70	28.5	124.8	99.0%	0.285	1.248
PM-10	5.0	5.70	28.5	124.8	99.0%	0.285	1.248
SO2	0.0	0.00	0.00	0.00	0.0%	0.000	0.00
NOx	0.0	0.00	0.00	0.00	0.0%	0.000	0.00
VOC	0.0	0.00	0.00	0.00	0.0%	0.000	0.00
CO	0.0	0.00	0.00	0.00	0.0%	0.000	0.00

Summary (tons per year)

EU #	Before Controls	After Controls	Before Controls	After Controls	Before & After Controls	Before & After Controls	Before & After Controls	Before & After Controls	Before & After Controls	Year Installed
	PM	PM	PM-10	PM-10	SO2	NOx	VOC	CO	CS	
1	350.4	2.1024	350.40	2.10	252.29	50.46	0.00	7884	94.61	<1960
2	350.4	2.1024	350.40	2.10	252.29	50.46	0.00	7884	94.61	<1960
3	210.24	21.024	210.24	21.024	0.572	0.00	127.46	0.00	0.00	<1978
4	210.24	21.024	210.24	21.024	0.572	0.00	127.46	0.00	0.00	<1978
5	2.628	2.628	2.63	2.628	0.00	0.00	0.00	0.00	0.00	<1980
6	2.628	2.628	2.63	2.628	0.00	0.00	0.00	0.00	0.00	<1980
7	21.9	0.219	21.90	0.219	0.00	0.00	0.00	0.00	0.00	1987
8	4.38	0.0438	4.38	0.0438	0.00	0.00	0.00	0.00	0.00	<1980
9	170.2944	1.702944	108.80	1.09	0.00	0.00	0.00	0.00	0.00	<1980
10	170.29	1.70	108.80	1.09	0.00	0.00	0.00	0.00	0.00	1991
11	170.2944	1.702944	108.80	1.087992	0.00	0.00	0.00	0.00	0.00	1990
12	21.9	0.219	21.90	0.219	0.00	0.00	0.00	0.00	0.00	1993
13	2.19	2.19	2.19	2.19	0.00	0.00	0.00	0.00	0.00	1980
14-24,27,28	1901.1609	19.011609	1901.16	19.01	0.00	0.00	0.00	0.00	0.00	1980
25-26	0.657	0.657	0.66	0.657	0.00	0.00	0.00	0.00	0.00	1980
29-30	2.46233088	2.46233088	1.17	1.17	0.00	0.00	0.00	0.00	0.00	<1980
31	8.76	0.0876	8.76	0.0876	0.00	0.00	0.00	0.00	0.00	1988
34,35,38,39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1980, 1997, 1991
40	124.83	1.25	124.83	1.25	0.00	0.00	0.00	0.00	0.00	2000
ALL	3725.66	**82.76**	3539.88	**79.62**	505.72	100.92	254.92	15768.00	189.22	